



Far-Eastern State Marine Biosphere Nature Reserve (FEMBR)

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Review and analysis of methodologies applied in the respective MPAs for:

- monitoring and assessment of the current status;
- assessment of environment and socio-economic pressures;
- sustainable management of marine resources.



Far-Eastern State Marine Biosphere Nature Reserve (FEMBR) is a Branch of the Federal State Budgetary Institution of Science " AV Zhirmunsky National Scientific Center of Marine Biology Far Eastern Branch of the Russian Academy of Sciences "Far Eastern Marine Biosphere State Nature Reserve“.



"Far Eastern Marine Biosphere State Nature Reserve"

Affiliation:

since 1978 - Russian Academy of Sciences,

since 2018-now - Ministry of Science and Higher Education.

In accordance with the Federal Law 33 "Specially Protected Natural Territories" the main objective of the activity of FEMBR is to preserve the natural environment of the richest in composition island and marine fauna and flora of Peter the Great Bay of the Sea of Japan and, above all, the gene pool of marine organisms, as well as conducting research and educational activities. The government assignment from the Ministry of Sciences and High Education for FEMBR includes the following Tasks:

1. monitoring and research of biological parameters;
2. implementation of protection;
3. environmental education and educational tourism.

Structure (on April, 2019):

- Branch Manager (Director);
- Deputy director of the branch in the field of environmental protection; Deputy director for General Affairs; Deputy director of the branch for educational tourism and environmental education; Deputy director of Development; Branch Chief Accountant; Branch Specialist.
- Structural units:
- Administrative and managerial staff - 11 people: implementation of general management:
- 1. Department of security -38 people - organization of protection and interaction with related structures, work with the local population, conducting internal control.
- 2. Department of sciences (Laboratory for the study of biological diversity and monitoring of protected areas) - 5 people - conducting an inventory and monitoring of the fauna and flora of the reserve.
- 3. Department of educational tourism and environmental education - 8 people - organization and development of tourism, promotion of tourism products of the reserve to the tourist services market, organization of environmental education activities, organization of environmental education activities of the Museum “Nature of the Sea and its Protection” and the Center for Environmental Education.
- 4. Department for the maintenance - 9 people - provision of fuel and lubricants, building materials, organization of supplies for all departments, repair of buildings and structures. Separate unit on the island of Popova 8 people. - ensuring the maintenance of buildings and structures.

Monitoring and assessment of the current status of the Far-Eastern State Marine Biosphere Reserve:

- In accordance with the Plan of research works of the Far Eastern Marine Biosphere State Nature Reserve, approved by Ministry of Science and Higher Education in 2018 "Monitoring and research of biological diversity of the Far Eastern marine biosphere Reserve Far East RAS" the biota of the reserve is being investigated.
- ***Biological parameters:***
- “Chronicle of nature” - the inventory of the fauna and flora of the FEMBR;
- Study of biological diversity and monitoring of protected areas.

TOPICS:



- - “Monitoring and Research Biological Diversity of the Far Eastern Marine Biosphere Reserve FEB RAS”;
- -"Modern accounting technologies marine biological resources and monitoring natural populations of especially valuable commercial hydrobionts”;
- -“The number, distribution and modern state of bird populations in Peter the Great Bay“;
- -"The genetic diversity of the yew pointed at Russian part of the range according to the analysis nucleotide polymorphism of chloroplast DNA "
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FEMBR -is a home to over 5,000 species of plants and animals

- ***Strategic area of activity:***

The purpose of the reserve is to research and preserve for future generations the gene pool of animals and plants of the Peter the Great Bay of the East/Japan Sea. The main directions of scientific activity are study and mapping of sea and terrestrial communities; inventory of species and landscape diversity, monitoring and assessment of the impact of anthropogenic and natural factors on biota; study of the biology of rare and endangered species. An inventory of the fauna and flora of the reserve has been carried out. Within the framework of the program "Biodiversity of the World Ocean: composition and distribution of biota," monitoring and research of biological diversity of flora and fauna is carried out. Modern technologies which aid in accounting for marine biological resources and monitoring of natural populations of especially valuable commercial hydrobionts are being developed.

RESULTS OBTAINED:

- - An inventory of major groups of animals and plants of the reserve, 5,640 species of organisms were identified, related to 6 kingdoms;
- - The distribution of the sublittoral epifauna of the reserve with using a remote-controlled underwater vehicle;
- - Mapping the distribution of mass species of hydrobionts with the use of GIS technology;
- - Studied biological features and current state Largha population in Peter the Great Bay,
- - The new data on the penetration into the waters of the reserve alien species of aquatic organisms;
- - For the first time, the number and distribution of marine colonial birds in Peter the Great Bay;
- - The types of strategies and activity of the alien plant species and the level of adventitization of island flora . Biology, ontogenesis and morphogenesis of rare plant species of islands of the reserve have been studied. High levels of gene and nucleotide diversity detected in yew pointed;
- - The reserve publishes and is the co-founder of the scientific journal “Biota and Environment

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General information



Security zone: 3 nautical miles around the sea, 500 meters around the land.

The reserve is located in the western part of the East/Japan Sea and occupies about 10% of the area of Peter the Great Bay, the southernmost and warmest waters of the Far Eastern seas of Russia.

The area of the reserve is 64,136.3 hectares, of which 63,000 hectares is water and 1,136.3 hectares is land. plants and animals.

Clustering - 4 sites with different security regimes.

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Eastern site - complete immunity zone;
Southern and Western sites - research, with partial sustainable development;;
Northern site - environmental education and tourism

The total number of cordons of protection in the reserve - 8.
Inspection staff security service 38 people.



Environmental education and educational tourism:

- Guided Tours on Popova Island
- Center for Environmental Education
- Museum of the Nature of the Sea and its protection
- Archaeological and Ethnographic complex "Heritage"
- Island Botanical Garden

Environmental education and educational tourism North site



- - Guided Tours on Popova Island
- - Center for Environmental Education
- - Museum of the Nature of the Sea and its protection
- - Archaeological and Ethnographic complex "Heritage"
- - Island Botanical Garden
- - The tourism infrastructure is represented by the Center for Environmental Education with accommodation for 60 beds, rooms for classes (seminars) and mass events, 2 dining rooms, a medical center.



Environmental education and educational tourism

• Together with public organizations, funds, cultural institutions in the reserve during the following activities were carried out:

- Environmental action "For Clean Coast" - 64 volunteers;
- Festivals (amount of 3) Coverage of the population - 580 people.-
Schoolchildren jamboree- 60 people;
- Regional meeting of teachers of pre-school educational organizations - 300 people.
- Family quest for the museum 120 people.
- Workshop on hydrobiology for middle school students - 30 people.
- Master class for schoolchildren - 18 people.
- Hazardous lessons in the schools of the Khasansky district " - 1200 people.

Accomplished results:

- At the local and regional levels, alliances have been established with public organizations, international foundations, educational, cultural and scientific organizations to promote knowledge of biological diversity and the need to preserve it.
- Within the framework of green sustainable technologies, a number of excursion routes successfully are operated in the reserve. Some of the routes were taken outside the reserve. It makes possible to develop tourism without increasing the burden on the nature reserves of the reserve. In addition, a museum and an open-air archaeological and ethnographic complex are open for tourists to visit. Also one can meet the animal world of the sea in the aquarium.
- The total number of tourists who visited these routes in 2017 is 5 620 people.

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Local residents are attracted to work to service tourists. They provide the transport component of all tours, meals. They work as tour leaders. Efficiency indicator of this activity is the routes of the reserve are included in the guest route along the Khasansky district of the All-Russian Forum of Tour Operators "Pacific Breeze".



Museum of the Nature of the Sea and its protection

The exposition of the museum introduces the animal and plant world of the sea and reveals the complex relationship between the ocean and man. The museum has 8 thematic rooms (260 sq. m) and an aquarium (40 sq. m.)



- The reserve became the winner in the nomination "Leaders of the Tourist Industry of Primorye in 2016" and "Leaders of the Tourist Industry of Primorye in 2017".
- Excursion services of the reserve are certified by the Russian National Standard GOST R Certification System. A certificate of conformity has been obtained for "Accommodation facility services. Furnished rooms" GOST R certification system.
- Department of Tourism Primorsky Krai gave a free site to the reserve on the IV Pacific Tourism Forum.
- Under the agreement with FEFU, the students of the faculty of service and tourism are involved in assessing the presentation of the reserve in social networks. Prospects of tourist products of the reserve` promotion are studied.

Environmental parameters:

- Monitoring of environmental parameters in the reserve is not conducted. State of the environment in the FEMBR is estimated taking into account the data of the automatic meteorological station of the Primgidromet located on the Furugelm Island in the southern section of FEMBR. The station measures the direction and speed of wind, precipitation, atmospheric pressure and air temperature. Primorsky Hydrometeorology and Environmental Monitoring Department (Primgidromet) is part of the Federal Service for Hydrometeorology and Environmental Monitoring. Primgidromet carries out its activities in accordance with Article 69 of the Federal Law "On Environmental Protection and" Resolution "On Approval of the Regulation on public service monitoring the state of the environment" from August 23, 2000 N 622. <http://www.primgidromet.ru/>

By a decision of the arbitral tribunal dated May 15, 2018, the activity of OOO Zarubinskaya Fleet Base was terminated. An underwater video survey was carried out and the harm size of destroyed coastal ecosystem was calculated. Destroyer refers to a special protected water bodies, the amount of harm was increased by 1.5 times and amounted to - 9 337 020 840 rubles (more than nine billion rubles.).





Thank you !